



Reptiles of Ecuador: a resource-rich online portal, with dynamic checklists and photographic guides

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Abstract.—With 477 species of non-avian reptiles within an area of 283,561 km², Ecuador has the highest density of reptile species richness among megadiverse countries in the world. This richness is represented by 35 species of turtles, five crocodylians, and 437 squamates including three amphisbaenians, 197 lizards, and 237 snakes. Of these, 45 species are endemic to the Galápagos Islands and 111 are mainland endemics. The high rate of species descriptions during recent decades, along with frequent taxonomic changes, has prevented printed checklists and books from maintaining a reasonably updated record of the species of reptiles from Ecuador. Here we present *Reptiles del Ecuador* (<http://bioweb.bio/faunaweb/reptiliaweb>), a free, resource-rich online portal with updated information on Ecuadorian reptiles. This interactive portal includes encyclopedic information on all species, multimedia presentations, distribution maps, habitat suitability models, and dynamic PDF guides. We also include an updated checklist with information on distribution, endemism, and conservation status, as well as a photographic guide to the reptiles from Ecuador.

Keywords. Biodiversity, Bioweb, distribution maps, PDF guide, Reptilia, South America

Abstract.—Con 477 especies de reptiles (excluyendo aves) en un área de 283,561 km², Ecuador tiene la mayor densidad de riqueza de especies de reptiles de los países megadiversos del mundo. Esta riqueza está representada por 35 especies de tortugas, cinco crocodilios y 437 escamosos, incluyendo tres anfisbénidos, 197 lagartijas y 237 serpientes. De estas, 45 especies son endémicas de las Islas Galápagos y 111 son endémicas del Ecuador continental. La alta tasa de descripciones de especies durante las últimas décadas, junto con los frecuentes cambios taxonómicos, han impedido que las listas de especies y los libros impresos mantengan un registro razonablemente actualizado de las especies de reptiles del Ecuador. Aquí presentamos *Reptiles del Ecuador* (<http://bioweb.bio/faunaweb/reptiliaweb>), un portal en línea gratuito y rico en recursos con información actualizada sobre los reptiles ecuatorianos. Este portal interactivo incluye información enciclopédica sobre todas las especies, presentaciones multimedia, mapas de distribución, modelos de aptitud de hábitat y guías dinámicas en PDF. Incluimos además una lista de especies actualizada, con información sobre distribución, endemismo y estado de conservación, así como una guía fotográfica de los reptiles del Ecuador.

Palabras clave. América del Sur, biodiversidad, Bioweb, guía PDF, mapas de distribución, Reptilia

Citation: Torres-Carvajal O, Pazmiño-Otamendi G, Salazar-Valenzuela D. 2019. Reptiles of Ecuador: a resource-rich portal, with a dynamic checklist and photographic guides. *Amphibian & Reptile Conservation* 13(1): [General Section]: 209–229 (e178).

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Received: 31 January 2019; **Accepted:** 15 April 2019; **Published:** 18 May 2019

Introduction

With an area of 283,561 km² including that of the Galápagos Islands, Ecuador is one of both the smallest and the most biodiverse countries in South America and the world (Joppa et al. 2011; Myers et al. 2000; Ulloa Ulloa et al. 2017). Among tetrapod vertebrates, 609 species of amphibians (Ron et al. 2019), 1,690 birds (Freile and Poveda 2019), 432 mammals (Brito et al. 2019), and

477 non-avian reptiles (Torres-Carvajal et al. 2019) have been recorded in this country to date. For all these taxa, Ecuador also has the highest density of species richness (i.e., number of species per area unit) among megadiverse countries in the world, as well as a remarkable proportion of endemic species, even if Galapagos taxa are excluded (Brito et al. 2019; Freile and Poveda 2019; Ron et al. 2019; Torres-Carvajal et al. 2019).

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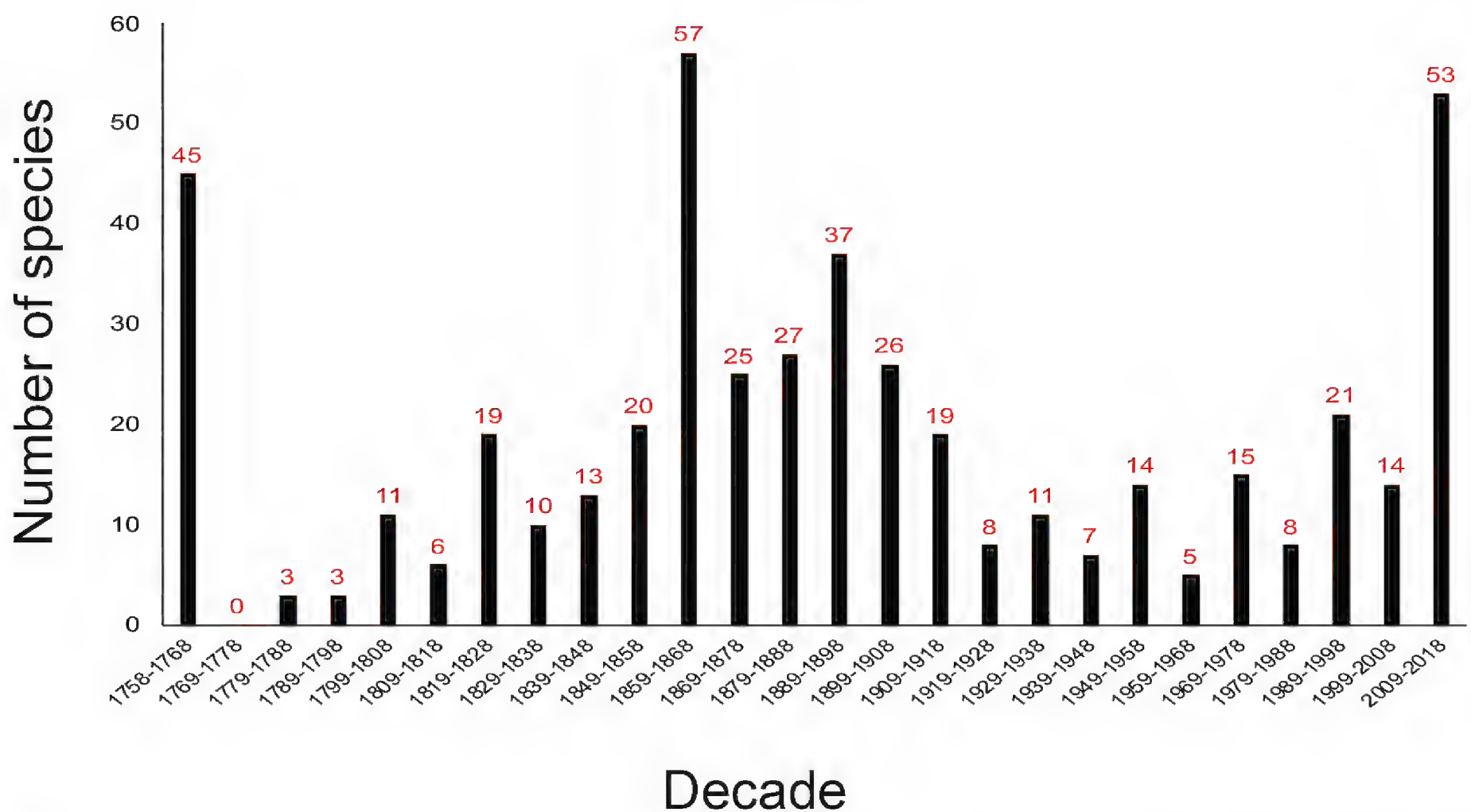


Fig. 1. Histogram showing the description of reptile species present in Ecuador through time, from Linnaeus' 10th edition of *Systema Naturae* to the end of 2018. The number of species described per decade is presented above each bar.

Ecuador's remarkable non-avian reptile richness combined with major knowledge gaps have challenged the production of a single comprehensive review of the reptiles from this country. Starting with the classic works of James A. Peters "The Snakes of Ecuador: a check list and key" (Peters 1960) and "The Lizards of Ecuador: a check list and key" (Peters 1967), several checklists (Almendáriz 1992; Miyata 1982; Torres-Carvajal 2001, 2011) and, more recently, books and field guides, on one or more Ecuadorian regions or taxa have been published (e.g., Arteaga et al. 2013; MECN 2010; Valencia et al. 2008, 2016; see also the Field Museum's field guides at <http://fieldguides.fieldmuseum.org>). A common problem with these publications, however, is that they quickly become outdated in both numbers of species and taxonomy (Torres-Carvajal 2011). Only in this century (2000–2018), 67 species of reptiles occurring in Ecuador have been described; moreover, the last decade (2009–2018) is the second most productive of all times in number of species described, being outnumbered only by 1859–1868 (Fig. 1). This development is positive because it indicates that the interest in the systematic study of the reptiles of Ecuador has increased in recent years, in agreement with the Systematics-Agenda-2020's mission one: "To discover and document past and present life on earth" (Daly et al. 2012).

As a response to the rapidly changing nature of the knowledge on Ecuadorian reptiles, in 2000 the Museum of Zoology at Pontificia Universidad Católica del Ecuador (QCAZ) published an on-line checklist (URL no longer exists) including scientific names, authors, year of description, and general altitudinal distribution data. In 2009, however, this online checklist was improved dra-

matically into an interactive website, with the aim of including more detailed information (e.g., species diagnoses, natural history, distribution, conservation status) and multimedia for all species of the reptiles of Ecuador. This platform, *Reptiles del Ecuador* (<http://bioweb.bio/faunaweb/reptiliaweb>), is part of a larger portal named BIOWEB (<http://bioweb.bio>) that also includes information on other taxonomic groups. The main goal of this portal, currently available only in Spanish, is to make biological information on the biodiversity of Ecuador available to researchers, students (at any level), educators, policy makers, and the general public. In this sense, *Reptiles del Ecuador* also supports Systematics-Agenda-2020's mission four: "To communicate and apply this knowledge to science and society" (Daly et al. 2012). BIOWEB is publishing, for the first time, databases from Ecuadorian biocollections with nearly half a million specimens available online (as of March 2019).

After a decade of development, here we describe the most important features and resources currently available at *Reptiles del Ecuador*, and present an updated checklist of the reptiles from Ecuador (Table 1), with information on distribution across major biogeographic regions (Fig. 2), and a sample photographic guide (Supplementary file 1).

Methods

Taxonomy

Following the hierarchical nature of phylogenetic trees, species names in *Reptiles del Ecuador* are taxonomically organized by major clades, which have traditionally been

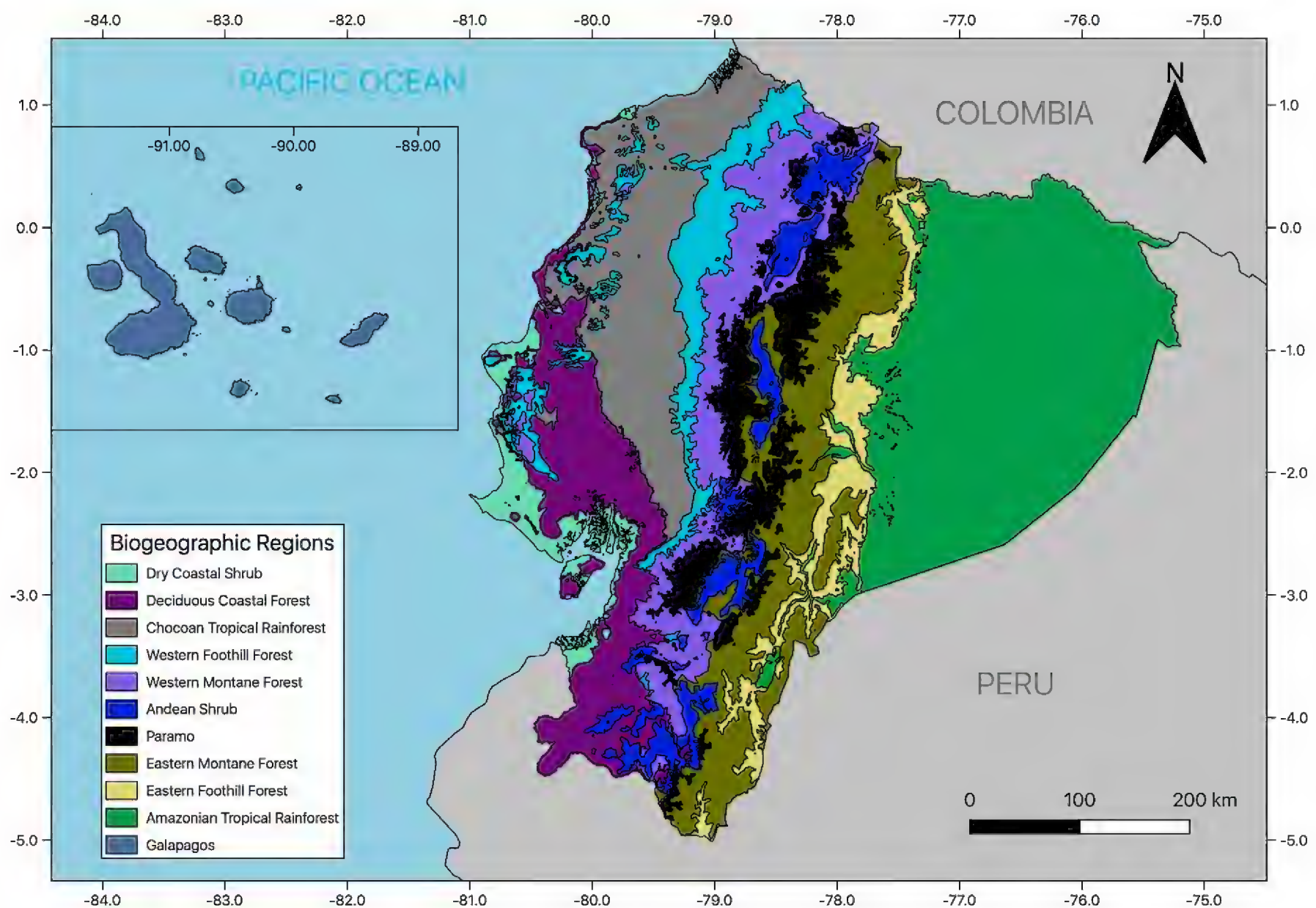


Fig. 2. Biogeographic regions of Ecuador. Source: <https://bioweb.bio> (modified from Sierra et al. 1999).

ranked as orders, families, and/or subfamilies. As an exception, the popular division of Squamates: amphisbaenians (*Amphisbaena*), lizards (*Sauria*, paraphyletic), and snakes (*Serpentes*) has been adopted. In general, the taxonomy of *Reptiles del Ecuador* is based on information available in scientific publications, but the decision to adopt or reject a particular taxonomic arrangement is the responsibility of the editors. Following articles 8.1 and 11.1 of the International Code of Zoological Nomenclature (1999), additional scientific names and nomenclatural acts available in unpublished theses and dissertations are excluded from the list; as is the use of the subspecies category, following the logic adopted at the *Mesoamerican Herpetology* website (<http://mesoamericanherpetology.com>; accessed 2 February 2019; see also de Queiroz 2005).

Species accounts and images

For each species, *Reptiles del Ecuador* includes information on authorship, type specimens, type locality, synonyms, etymology, identification (i.e., morphological characterization), coloration, natural history, distribution, conservation status, systematics, and bibliography. Because this information is mostly taken from the literature, the accounts of poorly known species are incomplete. In addition, each account is linked to an up-to-date list of specimens housed at the Museum of Zoology, QCAZ, the largest reptile collection in Ecuador (>17,000 specimens).

Species accounts are also associated with image galleries, which include relevant figures from the literature, maps, and photographs (if available). As of March 2019, *Reptiles del Ecuador* includes over 60,000 photographs of the majority of species. For rare or extinct species (e.g., *Holcosus orcesi* or *Chelonoidis niger*), scientific illustrations are provided. In most cases, photographs have been taken in a studio with a white background; however, the photographic collection of *Reptiles del Ecuador* has benefited greatly from many donors. While only a subset of the best shots is professionally edited and included in a separate album for each species, free access is provided to most available photographs under the CC BY-NC-ND 4.0 license.

Distribution maps and habitat suitability models, present and future

Based on locality data from the QCAZ reptile collection, as well as literature records, *Reptiles del Ecuador* includes interactive Google maps for the distribution of each species, in which the user can obtain general information (voucher number and locality) for each record. These maps are automatically updated as new specimens are entered in the collection's database. Data from GBIF, VertNet, and iNaturalist can also be displayed on each map.

Moreover, based on locality data from the QCAZ collection, every two weeks *Reptiles del Ecuador* automati-

Table 1. List of reptile species of Ecuador as of March 2019. Scientific name, authorship, biogeographic region, and information on endemism (EN; x = endemic to Ecuador) and conservation status (CS¹ = assessment of Carrillo et al. 2005; CS² = assessment from IUCN Red List 2018) is presented for each species. Number of species within each taxon is presented in parentheses. Biogeographic regions (see Fig. 2): 1=Dry Coastal Shrub, 2=Deciduous Coastal Forest, 3=Chococoan Tropical Rainforest, 4=Western Foothill Forest, 5=Western Montane Forest, 6=Andean Shrub, 7=Paramo, 8=Eastern Montane Forest, 9=Eastern Foothill Forest, 10=Amazonian Tropical Rainforest, and 11=Galapagos. The website *Reptiles del Ecuador* (<https://bioweb.bio/faunaweb/reptiliaweb>) should be checked in perpetuity for updates.

Taxon	Authorship	Biogeographic Region											EN	CS ¹	CS ²		
		1	2	3	4	5	6	7	8	9	10	11					
Alligatoridae (4)																	
<i>Caiman crocodilus</i>	Linnaeus 1758			x										x			
<i>Melanosuchus niger</i>	Spix 1825													x		VU	LC
<i>Paleosuchus palpebrosus</i>	Cuvier 1807													x		DD	LC
<i>Paleosuchus trigonatus</i>	Schneider 1801												x	x		LC	LC
Crocodylidae (1)																	
<i>Crocodylus acutus</i>	Cuvier 1807		x													CR	VU
SQUAMATA: AMPHISBAENIA (3)																	
Amphisbaenidae (3)																	
<i>Amphisbaena alba</i>	Linnaeus 1758												x	x		LC	LC
<i>Amphisbaena bassleri</i>	Vanzolini 2002									x	x	x				LC	NE
<i>Amphisbaena varia</i>	Laurenti 1768			x	x	x										NT	NE
SQUAMATA: SAURIA (197)																	
Alopoglossidae (9)																	
<i>Alopoglossus angulatus</i>	Linnaeus 1758									x				x		LC	LC
<i>Alopoglossus atriventris</i>	Duellman 1973									x	x	x				LC	NE
<i>Alopoglossus buckleyi</i>	O'Shaughnessy 1881									x	x	x				DD	LC
<i>Alopoglossus copii</i>	Boulenger 1885									x		x				DD	LC
<i>Alopoglossus festae</i>	Peracca 1904	x	x	x	x	x										VU	LC
<i>Alopoglossus viridiceps</i>	Torres-Carvajal and Lobos 2014					x									x	NE	NE
<i>Ptychoglossus bilineatus</i> ¹	Boulenger 1890														x	DD	DD
<i>Ptychoglossus brevifrontalis</i>	Boulenger 1912									x	x	x				NT	NE
<i>Ptychoglossus gorgonae</i>	Harris 1994		x			x										DD	NE
Anguidae (1)																	
<i>Diploglossus monotropis</i>	Kuhl 1820		x	x	x	x										NT	LC
Gekkonidae (3)																	
<i>Hemidactylus frenatus</i>	Duméril and Bibron 1836	x	x	x									x	x	x	NE	LC
<i>Hemidactylus mabouia</i>	Moreau de Jonnés 1818	x														NE	NE
<i>Lepidodactylus lugubris</i>	Duméril and Bibron 1836		x	x	x								x	x		NE	NE
Gymnophthalmidae (49)																	
<i>Anadia buenaventura</i>	Betancourt et al. 2018		x												x	NE	NE
<i>Anadia petersi</i>	Oftedal 1974									x					x	DD	DD
<i>Anadia rhombifera</i>	Günther 1859		x	x	x	x										VU	LC
<i>Andinosaura aurea</i>	Sánchez-Pacheco et al. 2012							x							x	NE	VU
<i>Andinosaura crypta</i>	Sánchez-Pacheco et al. 2011					x									x	NE	EN
<i>Andinosaura hyposticta</i>	Boulenger 1902				x											EN	DD
<i>Andinosaura kiziriani</i>	Sánchez-Pacheco et al. 2012					x	x								x	NE	NE
<i>Andinosaura oculata</i>	O'Shaughnessy 1879				x	x										EN	EN
<i>Andinosaura petrorum</i>	Kizirian 1996									x					x	DD	EN
<i>Andinosaura vespertina</i>	Kizirian 1996					x	x	x							x	DD	NE

Table 1 (continued). List of reptile species of Ecuador as of March 2019. Scientific name, authorship, biogeographic region, and information on endemism (EN; x = endemic to Ecuador) and conservation status (CS¹ = assessment of Carrillo et al. 2005; CS² = assessment from IUCN Red List 2018) is presented for each species. Number of species within each taxon is presented in parentheses. Biogeographic regions (see Fig. 2): 1=Dry Coastal Shrub, 2=Deciduous Coastal Forest, 3=Chocoan Tropical Rainforest, 4=Western Foothill Forest, 5=Western Montane Forest, 6=Andean Shrub, 7=Paramo, 8=Eastern Montane Forest, 9=Eastern Foothill Forest, 10=Amazonian Tropical Rainforest, and 11=Galapagos. The website *Reptiles del Ecuador* (<https://bioweb.bio/faunaweb/reptiliaweb>) should be checked in perpetuity for updates.

Taxon	Authorship	Biogeographic Region											EN	CS ¹	CS ²	
		1	2	3	4	5	6	7	8	9	10	11				
<i>Andinosaura vieta</i>	Kizirian 1996		x			x								x	DD	DD
<i>Arthrosaura reticulata</i>	O'Shaughnessy 1881								x	x	x				LC	NE
<i>Bachia trisanale</i>	Cope 1868								x	x	x				LC	DD
<i>Cercosaura argula</i>	Peters 1863								x	x	x				LC	LC
<i>Cercosaura manicata</i>	O'Shaughnessy 1881									x	x				NT	LC
<i>Cercosaura oshaughnessyi</i>	Boulenger 1885								x	x	x				NE	NE
<i>Echinosaura brachycephala</i>	Köhler et al. 2004				x	x								x	DD	EN
<i>Echinosaura horrida</i>	Boulenger 1890		x	x	x	x									VU	LC
<i>Echinosaura keyi</i>	Fritts and Smith 1969			x	x									x	VU	VU
<i>Echinosaura orcesi</i>	Fritts et al. 2002			x	x										DD	NT
<i>Euspondylus guentheri</i>	O'Shaughnessy 1881										x			x	VU	LC
<i>Euspondylus maculatus</i>	Tschudi 1845									x					VU	NE
<i>Gelanesaurus cochranæ</i>	Burt and Burt 1931								x	x	x				NT	LC
<i>Gelanesaurus flavogularis</i>	Altamirano-Benavides et al. 2013								x	x	x			x	NE	NE
<i>Iphisa elegans</i>	Gray 1851									x	x				LC	NE
<i>Loxopholis parietalis</i>	Cope 1885								x	x	x				LC	LC
<i>Macropholidus annectens</i>	Parker 1930						x							x	EN	EN
<i>Macropholidus ruthveni</i>	Noble 1921		x												NE	LC
<i>Pholidobolus affinis</i>	Peters 1863						x		x					x	NT	NT
<i>Pholidobolus dicrus</i>	Uzzell 1973								x	x				x	DD	NE
<i>Pholidobolus hillisi</i>	Torres-Carvajal et al. 2014						x		x					x	NE	NE
<i>Pholidobolus macbrydei</i>	Montanucci 1973					x	x	x	x					x	NT	LC
<i>Pholidobolus montium</i>	Peters 1863					x	x	x	x						NT	NT
<i>Pholidobolus prefrontalis</i>	Montanucci 1973					x	x		x					x	NT	LC
<i>Pholidobolus vertebralis</i>	O'Shaughnessy 1879		x	x	x	x									DD	LC
<i>Potamites ecleopus</i>	Cope 1875								x	x	x				LC	NE
<i>Potamites strangulatus</i>	Cope 1868								x	x	x				NT	LC
<i>Riama anatoloros</i>	Kizirian 1996								x	x				x	VU	VU
<i>Riama balneator</i>	Kizirian 1996								x					x	EN	EN
<i>Riama cashcaensis</i>	Kizirian and Coloma 1991					x		x						x	VU	NE
<i>Riama colomaromani</i>	Kizirian 1996					x		x							EN	NE
<i>Riama labionis</i>	Kizirian 1996				x	x								x	EN	EN
<i>Riama meleagris</i>	Boulenger 1885						x		x					x	EN	NT
<i>Riama orcesi</i>	Kizirian 1995								x					x	EN	NE
<i>Riama raneyi</i>	Kizirian 1996								x	x				x	VU	NE
<i>Riama simotera</i>	O'Shaughnessy 1879					x	x	x	x						VU	EN
<i>Riama stigmatoral</i>	Kizirian 1996						x		x					x	EN	VU
<i>Riama unicolor</i>	Gray 1858				x	x	x	x						x	NT	NE
<i>Riama yumborum</i>	Aguirre-Peñafiel et al. 2014					x								x	NE	DD

Table 1 (continued). List of reptile species of Ecuador as of March 2019. Scientific name, authorship, biogeographic region, and information on endemism (EN; x = endemic to Ecuador) and conservation status (CS¹ = assessment of Carrillo et al. 2005; CS² = assessment from IUCN Red List 2018) is presented for each species. Number of species within each taxon is presented in parentheses. Biogeographic regions (see Fig. 2): 1=Dry Coastal Shrub, 2=Deciduous Coastal Forest, 3=Chocoan Tropical Rainforest, 4=Western Foothill Forest, 5=Western Montane Forest, 6=Andean Shrub, 7=Paramo, 8=Eastern Montane Forest, 9=Eastern Foothill Forest, 10=Amazonian Tropical Rainforest, and 11=Galapagos. The website *Reptiles del Ecuador* (<https://bioweb.bio/faunaweb/reptiliaweb>) should be checked in perpetuity for updates.

Taxon	Authorship	Biogeographic Region											EN	CS ¹	CS ²		
		1	2	3	4	5	6	7	8	9	10	11					
Iguanidae: Corytophaninae (1)																	
<i>Basiliscus galeritus</i>	Duméril and Duméril 1851		x	x	x	x										LC	LC
Iguanidae: Dactyloinae (43)																	
<i>Anolis aequatorialis</i>	Werner 1894				x	x										NT	NE
<i>Anolis anchicayae</i>	Poe et al. 2009			x	x	x										NE	NE
<i>Anolis binotatus</i>	Peters 1863	x	x	x	x	x										DD	NE
<i>Anolis bitectus</i>	Cope 1864	x	x	x	x	x								x		LC	NE
<i>Anolis bombiceps</i>	Cope 1875											x				DD	NE
<i>Anolis chloris</i>	Boulenger 1898			x	x	x										LC	NE
<i>Anolis dracula</i>	Yáñez-Muñoz et al. 2018				x	x										NE	NE
<i>Anolis fasciatus</i>	Boulenger 1885	x	x	x	x	x								x		LC	NE
<i>Anolis festae</i>	Peracca 1904	x	x	x	x									x		NT	LC
<i>Anolis fitchi</i>	Williams and Duellman 1984							x	x	x						NT	LC
<i>Anolis fraseri</i>	Günther 1859				x	x										NT	LC
<i>Anolis fuscoauratus</i>	D'Orbigny 1837								x	x	x					LC	NE
<i>Anolis gemmosus</i>	O'Shaughnessy 1875				x	x	x									LC	LC
<i>Anolis gracilipes</i>	Boulenger 1898		x	x	x	x										LC	NE
<i>Anolis granuliceps</i>	Boulenger 1898		x	x	x											LC	LC
<i>Anolis heterodermus</i>	Duméril and Duméril 1851					x										NE	NE
<i>Anolis hyacinthogularis</i>	Torres-Carvajal et al. 2017								x					x		NE	NE
<i>Anolis lemniscatus</i>	Boulenger 1898				x									x		NE	DD
<i>Anolis lososi</i>	Torres-Carvajal et al. 2017								x					x		NE	NE
<i>Anolis lynchi</i>	Miyata 1985		x	x	x	x										NT	LC
<i>Anolis lyra</i>	Poe et al. 2009		x	x	x	x										NE	NE
<i>Anolis maculiventris</i>	Boulenger 1898			x	x	x										LC	NE
<i>Anolis nigrolineatus</i>	Williams 1965		x											x		DD	NE
<i>Anolis orcesi</i>	Lazell 1969								x					x		EN	NE
<i>Anolis ortonii</i>	Cope 1868								x	x	x					LC	NE
<i>Anolis otongae</i>	Ayala-Varela and Velasco 2010					x								x		NE	NE
<i>Anolis parilis</i>	Williams 1975			x	x									x		DD	NE
<i>Anolis parvauritus</i>	Williams 1966		x	x	x	x										LC	NE
<i>Anolis peraccae</i>	Boulenger 1898	x	x	x	x	x										LC	NE
<i>Anolis podocarpus</i>	Ayala-Varela and Torres-Carvajal 2010								x					x		NE	NE
<i>Anolis poei</i>	Ayala-Varela et al. 2014					x								x		NE	NE
<i>Anolis princeps</i>	Boulenger 1902		x	x	x	x										NT	NE
<i>Anolis proboscis</i>	Peters and Orcés 1956					x								x		CR	EN
<i>Anolis punctatus</i>	Daudin 1802								x	x	x					LC	NE
<i>Anolis purpurescens</i>	Cope 1899			x	x	x										DD	NE
<i>Anolis sagrei</i>	Duméril and Bibron 1837		x													NE	NE
<i>Anolis scypheus</i>	Cope 1864									x	x					LC	NE

Table 1 (continued). List of reptile species of Ecuador as of March 2019. Scientific name, authorship, biogeographic region, and information on endemism (EN; x = endemic to Ecuador) and conservation status (CS¹ = assessment of Carrillo et al. 2005; CS² = assessment from IUCN Red List 2018) is presented for each species. Number of species within each taxon is presented in parentheses. Biogeographic regions (see Fig. 2): 1=Dry Coastal Shrub, 2=Deciduous Coastal Forest, 3=Chocoan Tropical Rainforest, 4=Western Foothill Forest, 5=Western Montane Forest, 6=Andean Shrub, 7=Paramo, 8=Eastern Montane Forest, 9=Eastern Foothill Forest, 10=Amazonian Tropical Rainforest, and 11=Galapagos. The website *Reptiles del Ecuador* (<https://bioweb.bio/faunaweb/reptiliaweb>) should be checked in perpetuity for updates.

Taxon	Authorship	Biogeographic Region											EN	CS ¹	CS ²		
		1	2	3	4	5	6	7	8	9	10	11					
<i>Anolis soinii</i>	Poe and Yañez-Miranda 2008						x		x	x						NE	NE
<i>Anolis trachyderma</i>	Cope 1875								x	x	x					LC	NE
<i>Anolis transversalis</i>	Duméril and Duméril 1851										x					LC	NE
<i>Anolis vanzolinii</i>	Williams et al. 1996								x					x		EN	NE
<i>Anolis ventrimaculatus</i>	Boulenger 1912				x	x										NE	NT
<i>Anolis williamsmittermeierorum</i>	Poe and Yañez-Miranda 2007								x							NE	NE
Iguanidae: Hoplocercinae (11)																	
<i>Enyalioides altotambo</i>	Torres-Carvajal et al. 2015				x									x		NE	NE
<i>Enyalioides anisolepis</i>	Torres-Carvajal et al. 2015								x	x						NE	NE
<i>Enyalioides cofanorum</i>	Duellman 1973								x	x	x					NT	LC
<i>Enyalioides heterolepis</i>	Bocourt 1874		x	x	x	x										VU	LC
<i>Enyalioides laticeps</i>	Guichenot 1855								x	x	x					LC	NE
<i>Enyalioides microlepis</i>	O'Shaughnessy 1881								x	x	x					LC	LC
<i>Enyalioides oshaughnessyi</i>	Boulenger 1881		x	x	x	x										VU	VU
<i>Enyalioides praestabilis</i>	O'Shaughnessy 1881								x	x	x					VU	LC
<i>Enyalioides rubrigularis</i>	Torres-Carvajal et al. 2009								x	x				x		NE	NE
<i>Enyalioides touzeti</i>	Torres-Carvajal et al. 2008		x	x	x	x										NE	NE
<i>Morunasaurus annularis</i>	O'Shaughnessy 1881									x	x					DD	VU
Iguanidae: Iguaninae (5)																	
<i>Amblyrhynchus cristatus</i>	Bell 1825												x	x		VU	VU
<i>Conolophus marthae</i>	Gentile and Snell 2009												x	x		NE	CR
<i>Conolophus pallidus</i>	Heller 1903												x	x		VU	VU
<i>Conolophus subcristatus</i>	Gray 1831												x	x		VU	VU
<i>Iguana iguana</i>	Linnaeus 1758	x	x	x	x											LC	LC
Iguanidae: Polychrotinae (5)																	
<i>Polychrus femoralis</i>	Werner 1910	x	x			x										NT	LC
<i>Polychrus gutturosus</i>	Berthold 1846		x	x	x											VU	LC
<i>Polychrus liogaster</i>	Boulenger 1908									x						LC	NE
<i>Polychrus marmoratus</i>	Linnaeus 1758									x	x					LC	NE
<i>Polychrus peruvianus</i>	Noble 1924									x						NE	VU
Iguanidae: Tropidurinae (32)																	
<i>Microlophus albemarlensis</i>	Baur 1890												x	x		NT	LC
<i>Microlophus barringtonensis</i>	Baur 1892												x	x		NE	NE
<i>Microlophus bivittatus</i>	Peters 1871												x	x		VU	NT
<i>Microlophus delanonis</i>	Baur 1890												x	x		NT	NE
<i>Microlophus duncanensis</i>	Baur 1890												x	x		VU	NT
<i>Microlophus grayii</i>	Bell 1843												x	x		VU	NT
<i>Microlophus habelii</i>	Steindachner 1876												x	x		NT	LC
<i>Microlophus indefatigabilis</i>	Baur 1890												x	x		NE	LC
<i>Microlophus jacobi</i>	Baur 1892												x	x		NE	LC

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Taxon	Authorship	Biogeographic Region											EN	CS ¹	CS ²		
		1	2	3	4	5	6	7	8	9	10	11					
<i>Microlophus occipitalis</i>	Peters 1871	x	x													LC	LC
<i>Microlophus pacificus</i>	Steindachner 1876											x		x		NT	LC
<i>Microlophus peruvianus</i>	Lesson 1830	x														LC	LC
<i>Plica plica</i>	Linnaeus 1758											x				LC	NE
<i>Plica umbra</i>	Linnaeus 1758								x	x	x					LC	NE
<i>Stenocercus aculeatus</i>	O'Shaughnessy 1879										x					LC	LC
<i>Stenocercus angel</i>	Torres-Carvajal 2000					x	x	x	x							VU	NT
<i>Stenocercus angulifer</i>	Werner 1901								x	x	x			x		NE	LC
<i>Stenocercus cadlei</i>	Torres-Carvajal and Mafra-Endara 2013				x	x	x	x	x					x		NE	LC
<i>Stenocercus carrioni</i>	Parker 1934		x					x						x		NE	NE
<i>Stenocercus chota</i>	Torres-Carvajal 2000				x	x	x							x		VU	LC
<i>Stenocercus festae</i>	Peracca 1897		x			x	x	x	x					x		VU	VU
<i>Stenocercus guentheri</i>	Boulenger 1885				x	x	x	x								NT	LC
<i>Stenocercus haenschi</i>	Werner 1901				x									x		DD	CR
<i>Stenocercus humeralis</i>	Günther 1859							x	x	x						NT	LC
<i>Stenocercus iridescens</i>	Günther 1859	x	x	x	x	x										LC	LC
<i>Stenocercus limitaris</i>	Cadle 1998		x													NE	NE
<i>Stenocercus ornatus</i>	Gray 1845		x			x	x	x						x		EN	NE
<i>Stenocercus puyango</i>	Torres-Carvajal 2005	x	x													NE	LC
<i>Stenocercus rhodomelas</i>	Boulenger 1899		x		x	x	x							x		VU	NE
<i>Stenocercus simonsii</i>	Boulenger 1899					x	x							x		DD	NE
<i>Stenocercus varius</i>	Boulenger 1885					x								x		VU	EN
<i>Uracentron flaviceps</i>	Guichenot 1855											x				LC	NE
Phyllodactylidae (14)																	
<i>Phyllodactylus barringtonensis</i>	Van Denburgh 1912												x	x		NT	LC
<i>Phyllodactylus baurii</i>	Garman 1892												x	x		NT	DD
<i>Phyllodactylus darwini</i>	Taylor 1942												x	x		NT	NT
<i>Phyllodactylus duncanensis</i>	Van Denburgh 1912												x	x		NE	NE
<i>Phyllodactylus galapagensis</i>	Peters 1869												x	x		NT	NT
<i>Phyllodactylus gilberti</i>	Heller 1903												x	x		NT	DD
<i>Phyllodactylus gorii</i>	Lanza 1973												x	x		NE	NE
<i>Phyllodactylus kofordi</i>	Dixon and Huey 1970		x													NE	LC
<i>Phyllodactylus leei</i>	Cope 1889												x	x		NT	NT
<i>Phyllodactylus leoni</i>	Torres-Carvajal et al. 2013					x								x		NE	VU
<i>Phyllodactylus pumilus</i>	Dixon and Huey 1970	x			x									x		DD	DD
<i>Phyllodactylus reissii</i>	Peters 1862	x	x	x	x	x							x			LC	LC
<i>Thecadactylus rapicauda</i>	Houttuyn 1782		x	x	x											LC	NE
<i>Thecadactylus solimoensis</i>	Bergmann and Russell 2007											x	x			NE	NE
Scincidae (2)																	
<i>Mabuya altamazonica</i>	Miralles et al. 2006											x	x			NE	NE

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Taxon	Authorship	Biogeographic Region											EN	CS ¹	CS ²		
		1	2	3	4	5	6	7	8	9	10	11					
<i>Mabuya nigropunctata</i>	Spix 1825											x	x			LC	NE
Sphaerodactylidae (11)																	
<i>Gonatodes caudiscutatus</i>	Günther 1859	x	x	x	x	x	x			x	x		x			LC	LC
<i>Gonatodes concinnatus</i>	O'Shaughnessy 1881									x		x				LC	LC
<i>Gonatodes humeralis</i>	Guichenot 1855											x				LC	NE
<i>Lepidoblepharis buchwaldi</i>	Werner 1910	x	x	x	x	x									x	NT	LC
<i>Lepidoblepharis conolepis</i>	Ávila-Pires 2001				x	x									x	EN	EN
<i>Lepidoblepharis festae</i>	Peracca 1897									x	x	x				NT	NE
<i>Lepidoblepharis grandis</i>	Miyata 1985			x	x	x									x	EN	VU
<i>Lepidoblepharis intermedius</i>	Boulenger 1914				x											DD	LC
<i>Lepidoblepharis ruthveni</i>	Parker 1926				x											EN	LC
<i>Pseudogonatodes guianensis</i>	Parker 1935											x	x			LC	NE
<i>Sphaerodactylus scapularis</i>	Boulenger 1902											x				EN	EN
Teiidae (11)																	
<i>Ameiva ameiva</i>	Linnaeus 1758												x			LC	NE
<i>Callopietes flavipunctatus</i>	Duméril and Bibron 1839		x													EN	NE
<i>Dicrodon guttulatum</i>	Duméril and Bibron 1839	x	x													LC	LC
<i>Dracaena guianensis</i>	Daudin 1802												x			LC	NE
<i>Holcosus bridgesii</i>	Cope 1868		x	x	x	x										LC	LC
<i>Holcosus orcesi</i>	Peters 1964					x									x	EN	CR
<i>Holcosus septemlineatus</i>	Duméril and Duméril 1851	x	x	x	x	x										LC	LC
<i>Kentropyx altamazonica</i>	Cope 1875									x	x					NE	NE
<i>Kentropyx pelviceps</i>	Cope 1868									x	x	x				LC	NE
<i>Medopheos edracanthus</i>	Bocourt 1874	x	x													LC	LC
<i>Tupinambis cuzcoensis</i>	Murphy et al. 2016												x			LC	NE
SQUAMATA: SERPENTES (237)																	
Aniliidae (1)																	
<i>Anilius scytale</i>	Linnaeus 1758												x			NT	NE
Anomalepididae (2)																	
<i>Anomalepis flavapices</i>	Peters 1957			x											x	DD	DD
<i>Liotyphlops albirostris</i>	Peters 1857		x	x												NE	LC
Boidae (7)																	
<i>Boa constrictor</i>	Linnaeus 1758						x				x	x				VU	NE
<i>Boa imperator</i>	Daudin 1803	x	x	x	x											VU	LC
<i>Corallus batesii</i>	Gray 1860											x				NT	LC
<i>Corallus blombergi</i>	Rendahl and Vestergren 1941		x	x												EN	EN
<i>Corallus hortulanus</i>	Linnaeus 1758										x	x				LC	LC
<i>Epicrates cenchria</i>	Linnaeus 1758									x	x	x				LC	NE
<i>Eunectes murinus</i>	Linnaeus 1758											x				EN	NE

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Taxon	Authorship	Biogeographic Region											EN	CS ¹	CS ²		
		1	2	3	4	5	6	7	8	9	10	11					
Colubridae: Colubrinae (44)																	
<i>Chironius exoletus</i>	Linnaeus 1758		x	x	x	x				x	x	x				LC	NE
<i>Chironius flavopictus</i>	Werner 1909		x	x	x											VU	DD
<i>Chironius fuscus</i>	Linnaeus 1758								x	x	x					LC	NE
<i>Chironius grandisquamis</i>	Peters 1869		x	x	x	x										NT	LC
<i>Chironius monticola</i>	Roze 1952		x	x	x	x	x		x	x	x					LC	LC
<i>Chironius multiventris</i>	Schmidt and Walker 1943									x	x					LC	NE
<i>Chironius scurrulus</i>	Wagler 1824								x	x	x					LC	NE
<i>Dendrophidion bivittatus</i>	Duméril et al. 1854					x										NE	LC
<i>Dendrophidion brunneum</i>	Günther 1858	x	x	x	x	x	x									NT	LC
<i>Dendrophidion clarkii</i>	Dunn 1933		x	x	x	x										NE	LC
<i>Dendrophidion dendrophis</i>	Schlegel 1837									x	x					DD	NE
<i>Dendrophidion graciliverpa</i>	Cadle 2012		x	x	x	x								x		NT	LC
<i>Dendrophidion prolixum</i>	Cadle 2012			x	x	x										NE	LC
<i>Drymarchon corais</i>	Boie 1827										x					DD	NE
<i>Drymarchon melanurus</i>	Duméril et al. 1854		x	x	x	x	x									NT	LC
<i>Drymobius rhombifer</i>	Günther 1860			x						x	x					LC	LC
<i>Drymoluber dichrous</i>	Peters 1863								x	x	x					LC	NE
<i>Lampropeltis micropholis</i>	Cope 1860		x	x	x	x	x									EN	LC
<i>Leptophis ahaetulla</i>	Linnaeus 1758	x	x	x	x						x					NT	NE
<i>Leptophis cupreus</i>	Cope 1868			x					x	x	x					DD	LC
<i>Leptophis depressirostris</i>	Cope 1861			x	x	x										DD	LC
<i>Leptophis riveti</i>	Despax 1910		x		x	x				x						DD	LC
<i>Mastigodryas heathii</i>	Cope 1875		x				x									EN	LC
<i>Mastigodryas pulchriceps</i>	Cope 1868	x	x	x	x	x	x									NT	LC
<i>Mastigodryas reticulatus</i>	Peters 1863	x	x	x	x									x		NT	NE
<i>Oxybelis aeneus</i>	Wagler 1824	x	x	x	x	x					x					LC	NE
<i>Oxybelis brevirostris</i>	Cope 1861		x	x	x	x										NT	LC
<i>Oxybelis fulgidus</i>	Daudin 1803									x	x					LC	NE
<i>Phrynonax polylepis</i>	Peters 1867								x	x	x					LC	NE
<i>Phrynonax shropshirei</i>	Barbour and Amaral 1924		x	x	x											LC	LC
<i>Rhinobothryum bovallii</i>	Andersson 1916			x	x											VU	LC
<i>Rhinobothryum lentiginosum</i>	Scopoli 1785										x					DD	NE
<i>Spilotes megalolepis</i>	Günther 1865		x	x	x									x		VU	NE
<i>Spilotes pullatus</i>	Linnaeus 1758										x					LC	NE
<i>Spilotes sulphureus</i>	Wagler 1824								x	x	x					LC	NE
<i>Stenorrhina degenhardtii</i>	Berthold 1846	x	x	x	x											NT	LC
<i>Tantilla alticola</i>	Boulenger 1903			x	x											NE	LC
<i>Tantilla andinista</i>	Wilson and Mena 1980						x							x		CR	DD
<i>Tantilla capistrata</i>	Cope 1875	x	x													DD	LC

Reptiles of Ecuador portal

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Taxon	Authorship	Biogeographic Region											EN	CS ¹	CS ²	
		1	2	3	4	5	6	7	8	9	10	11				
<i>Tantilla insulamontana</i>	Wilson and Mena 1980					x								x	CR	CR
<i>Tantilla melanocephala</i>	Linnaeus 1758		x	x	x	x			x	x	x				LC	NE
<i>Tantilla miyatai</i>	Wilson and Knight 1987			x										x	DD	DD
<i>Tantilla petersi</i>	Wilson 1979						x							x	DD	CR
<i>Tantilla supracincta</i>	Peters 1863		x	x	x										NT	LC
Colubridae: Dipsadinae (136)																
<i>Atractus atlas</i>	Passos et al. 2018								x					x	NE	NE
<i>Atractus carrioni</i>	Parker 1930		x			x	x		x						EN	EN
<i>Atractus cerberus</i>	Arteaga et al. 2017		x											x	NE	NE
<i>Atractus collaris</i>	Peracca 1897											x			LC	LC
<i>Atractus duboisi</i>	Boulenger 1880								x	x				x	NE	EN
<i>Atractus dunni</i>	Savage 1955				x	x								x	VU	NT
<i>Atractus ecuadorensis</i>	Savage 1955								x					x	DD	DD
<i>Atractus elaps</i>	Günther 1858								x	x	x				LC	NE
<i>Atractus esepe</i>	Arteaga et al. 2017		x											x	NE	NE
<i>Atractus gaigeae</i>	Savage 1955									x	x			x	LC	LC
<i>Atractus gigas</i>	Myers and Schargel 2006				x	x									NE	NT
<i>Atractus iridescens</i>	Peracca 1896			x	x										NE	LC
<i>Atractus lehmanni</i>	Boettger 1898					x	x		x					x	DD	DD
<i>Atractus major</i>	Boulenger 1894								x	x	x				NE	LC
<i>Atractus microrhynchus</i>	Cope 1868		x	x											DD	VU
<i>Atractus modestus</i>	Boulenger 1894				x	x								x	DD	VU
<i>Atractus multicinctus</i>	Jan 1865		x	x	x										DD	LC
<i>Atractus occidentalis</i>	Savage 1955				x	x								x	NT	EN
<i>Atractus occipitoalbus</i>	Jan 1862								x	x	x				NT	NT
<i>Atractus orcesi</i>	Savage 1955								x	x	x				NE	NE
<i>Atractus paucidens</i>	Despax 1910		x	x	x	x								x	DD	VU
<i>Atractus pyroni</i>	Arteaga et al. 2017					x								x	NE	NE
<i>Atractus resplendens</i>	Peracca 1897								x					x	DD	DD
<i>Atractus roulei</i>	Despax 1910		x			x	x							x	DD	VU
<i>Atractus savagei</i>	Salazar-Valenzuela et al. 2014					x								x	NE	NE
<i>Atractus snethlageae</i>	Cunha and Nascimento 1983								x	x	x				NE	LC
<i>Atractus torquatus</i>	Duméril et al. 1854										x				NE	NE
<i>Atractus touzeti</i>	Schargel et al. 2013								x					x	NE	NE
<i>Atractus typhon</i>	Passos et al. 2009			x	x										NE	DD
<i>Clelia clelia</i>	Daudin 1803		x	x					x	x	x				LC	NE
<i>Clelia equatoriana</i>	Amaral 1924		x		x	x	x								NT	LC
<i>Coniophanes dromiciformis</i>	Peters 1863	x	x	x											NT	VU
<i>Coniophanes fissidens</i>	Günther 1858		x	x	x	x									DD	LC
<i>Coniophanes longinquus</i>	Cadle 1989		x												NE	NE

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Taxon	Authorship	Biogeographic Region											EN	CS ¹	CS ²		
		1	2	3	4	5	6	7	8	9	10	11					
<i>Diaphorolepis wagneri</i>	Jan 1863			x	x	x										NT	LC
<i>Dipsas andiana</i>	Boulenger 1896	x	x	x	x	x									x	NT	NT
<i>Dipsas bobridgelyi</i>	Arteaga et al. 2018		x													NE	NE
<i>Dipsas catesbyi</i>	Sentzen 1796								x	x	x					LC	LC
<i>Dipsas elegans</i>	Boulenger 1896				x	x	x								x	VU	VU
<i>Dipsas ellipsifera</i>	Boulenger 1898						x								x	EN	NE
<i>Dipsas georgejetti</i>	Arteaga et al. 2018		x												x	NE	NE
<i>Dipsas gracilis</i>	Boulenger 1902		x	x	x	x										NT	NE
<i>Dipsas indica</i>	Laurenti 1768								x	x	x					LC	NE
<i>Dipsas jamespetersi</i>	Orcés and Almendáriz 1989					x	x		x							DD	NE
<i>Dipsas klebbai</i>	Arteaga et al. 2018								x						x	NE	NE
<i>Dipsas oligozonata</i>	Orcés and Almendáriz 1989					x									x	DD	NE
<i>Dipsas oreas</i>	Cope 1868		x		x	x	x		x							VU	NT
<i>Dipsas oswaldobaezi</i>	Arteaga et al. 2018	x	x			x										NE	NE
<i>Dipsas palmeri</i>	Boulenger 1912								x	x	x					NE	LC
<i>Dipsas pavonina</i>	Schlegel 1837								x	x						LC	LC
<i>Dipsas temporalis</i>	Werner 1909			x	x											NT	LC
<i>Dipsas variegata</i>	Duméril et al. 1854										x					NE	NE
<i>Dipsas vermiculata</i>	Peters 1960								x	x						NT	LC
<i>Drepanoides anomalus</i>	Jan 1863									x	x					LC	NE
<i>Echinanthera undulata</i>	Wied-Neuwied 1824									x	x					NE	LC
<i>Emmochliophis fugleri</i>	Fritts and Smith 1969				x										x	DD	DD
<i>Emmochliophis miops</i>	Boulenger 1898				x										x	DD	CR
<i>Erythrolamprus aesculapii</i>	Linnaeus 1758								x	x	x					DD	NE
<i>Erythrolamprus breviceps</i>	Cope 1860								x		x					VU	NE
<i>Erythrolamprus epinephelus</i>	Cope 1862		x	x	x	x	x									EN	LC
<i>Erythrolamprus festae</i>	Peracca 1897								x	x	x					LC	LC
<i>Erythrolamprus guentheri</i>	Garman 1884						x		x	x	x					NT	LC
<i>Erythrolamprus miliaris</i>	Linnaeus 1758										x					DD	NE
<i>Erythrolamprus mimus</i>	Cope 1868			x	x	x										NT	LC
<i>Erythrolamprus pygmaeus</i>	Cope 1868								x		x					DD	NE
<i>Erythrolamprus reginae</i>	Linnaeus 1758								x	x	x					LC	NE
<i>Erythrolamprus subocularis</i>	Boulenger 1902				x										x	DD	DD
<i>Erythrolamprus taeniogaster</i>	Jan 1863										x					VU	NE
<i>Erythrolamprus typhlus</i>	Linnaeus 1758									x	x					NT	NE
<i>Erythrolamprus vitti</i>	Dixon 2000				x	x										DD	DD
<i>Eutrachelophis bassleri</i>	Myers and McDowell 2014										x					NE	NE
<i>Helicops angulatus</i>	Linnaeus 1758									x	x					VU	NE
<i>Helicops leopardinus</i>	Schlegel 1837										x					DD	NE
<i>Helicops pastazae</i>	Shreve 1934										x					LC	LC

Reptiles of Ecuador portal

Table 1 (continued). List of reptile species of Ecuador as of March 2019. Scientific name, authorship, biogeographic region, and information on endemism (EN; x = endemic to Ecuador) and conservation status (CS¹ = assessment of Carrillo et al. 2005; CS² = assessment from IUCN Red List 2018) is presented for each species. Number of species within each taxon is presented in parentheses. Biogeographic regions (see Fig. 2): 1=Dry Coastal Shrub, 2=Deciduous Coastal Forest, 3=Chocoan Tropical Rainforest, 4=Western Foothill Forest, 5=Western Montane Forest, 6=Andean Shrub, 7=Paramo, 8=Eastern Montane Forest, 9=Eastern Foothill Forest, 10=Amazonian Tropical Rainforest, and 11=Galapagos. The website *Reptiles del Ecuador* (<https://bioweb.bio/faunaweb/reptiliaweb>) should be checked in perpetuity for updates.

Taxon	Authorship	Biogeographic Region											EN	CS ¹	CS ²
		1	2	3	4	5	6	7	8	9	10	11			
<i>Helicops petersi</i>	Rossmann 1976									x	x		x	NT	NT
<i>Hydrops martii</i>	Wagler 1824										x			LC	LC
<i>Hydrops triangularis</i>	Wagler 1824										x			LC	NE
<i>Imantodes cenchoa</i>	Linnaeus 1758	x	x	x	x	x			x	x	x			LC	NE
<i>Imantodes chocoensis</i>	Torres-Carvajal et al. 2012			x	x									NE	LC
<i>Imantodes inornatus</i>	Boulenger 1896			x										DD	LC
<i>Imantodes lentiferus</i>	Cope 1894								x	x	x			LC	NE
<i>Leptodeira annulata</i>	Linnaeus 1758								x	x	x			LC	NE
<i>Leptodeira septentrionalis</i>	Kennicott 1859	x	x	x	x	x								LC	LC
<i>Lygophis lineatus</i>	Linnaeus 1758			x										DD	NE
<i>Ninia atrata</i>	Hallowell 1845		x	x	x	x								NT	LC
<i>Ninia hudsoni</i>	Parker 1940								x	x	x			LC	NE
<i>Ninia teresitae</i>	Angarita-Sierra and Lynch 2017			x	x	x								NE	NE
<i>Nothopsis rugosus</i>	Cope 1871			x										EN	LC
<i>Oxyrhopus fitzingeri</i>	Tschudi 1845	x	x											DD	LC
<i>Oxyrhopus leucomelas</i>	Werner 1916								x					DD	LC
<i>Oxyrhopus melanogenys</i>	Tschudi 1845								x	x	x			DD	LC
<i>Oxyrhopus occipitalis</i>	Wagler 1824								x	x	x			NE	LC
<i>Oxyrhopus petolarius</i>	Linnaeus 1758		x	x	x	x	x		x	x	x			LC	NE
<i>Oxyrhopus vanidicus</i>	Lynch 2009									x	x			NE	NE
<i>Philodryas amaru</i>	Zaher et al. 2014								x				x	NE	NE
<i>Philodryas argentea</i>	Daudin 1803									x	x			LC	LC
<i>Philodryas simonsii</i>	Boulenger 1900					x	x	x	x					DD	LC
<i>Philodryas viridissima</i>	Linnaeus 1758										x			DD	NE
<i>Pliocercus euryzonus</i>	Cope 1862			x	x	x								DD	LC
<i>Pseudalsophis biserialis</i>	Günther 1860											x	x	EN	NT
<i>Pseudalsophis darwini</i>	Zaher et al. 2018											x	x	NE	NE
<i>Pseudalsophis dorsalis</i>	Steindachner 1876											x	x	NE	LC
<i>Pseudalsophis elegans</i>	Tschudi 1845		x											DD	LC
<i>Pseudalsophis hephaestus</i>	Zaher et al. 2018											x	x	NE	NE
<i>Pseudalsophis hoodensis</i>	Van Denburgh 1912											x	x	VU	NT
<i>Pseudalsophis occidentalis</i>	Van Denburgh 1912											x	x	NE	LC
<i>Pseudalsophis slevini</i>	Van Denburgh 1912											x	x	CR	NE
<i>Pseudalsophis steindachneri</i>	Van Denburgh 1912											x	x	EN	NT
<i>Pseudalsophis thomasi</i>	Zaher et al. 2018											x	x	NE	NE
<i>Pseudoboa coronata</i>	Schneider 1801										x			NT	NE
<i>Pseudoeryx plicatilis</i>	Linnaeus 1758										x			DD	LC
<i>Rhadinaea decorata</i>	Günther 1858				x									DD	LC
<i>Saphenophis atahualpae</i>	Steindachner 1901					x							x	DD	DD
<i>Saphenophis boursieri</i>	Jan 1867				x	x	x							VU	NT

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Taxon	Authorship	Biogeographic Region											EN	CS ¹	CS ²		
		1	2	3	4	5	6	7	8	9	10	11					
<i>Sibon annulatus</i>	Günther 1872			x												NE	LC
<i>Sibon bevriddgelyi</i>	Arteaga et al. 2018		x		x											NE	NE
<i>Sibon dunni</i>	Peters 1957						x								x	DD	DD
<i>Sibon nebulatus</i>	Linnaeus 1758		x	x	x	x										LC	NE
<i>Siphlophis ayauma</i>	Sheehy et al. 2014						x		x	x					x	NE	NE
<i>Siphlophis cervinus</i>	Laurenti 1768											x				LC	NE
<i>Siphlophis compressus</i>	Daudin 1803								x	x	x					LC	LC
<i>Synophis bicolor</i>	Peracca 1896			x	x											NT	NE
<i>Synophis bogerti</i>	Torres-Carvajal et al. 2015								x						x	NE	NE
<i>Synophis calamitus</i>	Hillis 1990					x									x	DD	DD
<i>Synophis lasallei</i>	Nicéforo-María 1950								x	x						NT	DD
<i>Synophis zaheri</i>	Pyron et al. 2015		x												x	NE	NE
<i>Synophis zamora</i>	Torres-Carvajal et al. 2015								x	x					x	NE	NE
<i>Taeniophallus brevirostris</i>	Peters 1863								x	x	x					LC	NE
<i>Thamnodynastes pallidus</i>	Linnaeus 1758											x				DD	LC
<i>Tretanorhinus mocquardi</i>	Bocourt 1891		x													NE	DD
<i>Tretanorhinus taeniatus</i>	Boulenger 1903			x												LC	NT
<i>Urotheca fulviceps</i>	Cope 1886			x		x										DD	LC
<i>Urotheca lateristriga</i>	Berthold 1859			x	x	x	x									NT	LC
<i>Xenodon rabdocephalus</i>	Wied-Neuwied 1824			x	x				x	x	x					LC	NE
<i>Xenodon severus</i>	Linnaeus 1758								x	x	x					LC	NE
<i>Xenopholis scalaris</i>	Wucherer 1861											x				DD	LC
Elapidae (19)																	
<i>Hydrophis platurus</i>	Linnaeus 1766	x	x											x		LC	LC
<i>Micrurus ancoralis</i>	Jan 1872			x	x	x										NT	LC
<i>Micrurus bocourti</i>	Jan 1872	x	x	x												VU	NE
<i>Micrurus dumerilii</i>	Jan 1858		x	x	x											NT	NE
<i>Micrurus hemprichii</i>	Jan 1858										x	x				LC	NE
<i>Micrurus langsdorffi</i>	Wagler 1824											x				VU	LC
<i>Micrurus lemniscatus</i>	Linnaeus 1758								x	x	x					LC	NE
<i>Micrurus mertensi</i>	Schmidt 1936						x									DD	NE
<i>Micrurus mipartitus</i>	Duméril et al. 1854			x	x	x										LC	LC
<i>Micrurus multiscutatus</i>	Rendahl and Vestergren 1940			x	x											NE	NT
<i>Micrurus narduccii</i>	Jan 1863								x	x	x					LC	LC
<i>Micrurus ornatissimus</i>	Jan 1858								x	x	x					LC	LC
<i>Micrurus peruvianus</i>	Schmidt 1936								x	x						NE	NE
<i>Micrurus petersi</i>	Roze 1967								x	x					x	DD	DD
<i>Micrurus scutiventris</i>	Cope 1870											x				DD	NE
<i>Micrurus spixii</i>	Wagler 1824										x	x				LC	NE
<i>Micrurus steindachneri</i>	Werner 1901								x	x	x					VU	LC

Table 1 (continued). List of reptile species of Ecuador as of March 2019. Scientific name, authorship, biogeographic region, and information on endemism (EN; x = endemic to Ecuador) and conservation status (CS¹ = assessment of Carrillo et al. 2005; CS² = assessment from IUCN Red List 2018) is presented for each species. Number of species within each taxon is presented in parentheses. Biogeographic regions (see Fig. 2): 1=Dry Coastal Shrub, 2=Deciduous Coastal Forest, 3=Chocoan Tropical Rainforest, 4=Western Foothill Forest, 5=Western Montane Forest, 6=Andean Shrub, 7=Paramo, 8=Eastern Montane Forest, 9=Eastern Foothill Forest, 10=Amazonian Tropical Rainforest, and 11=Galapagos. The website *Reptiles del Ecuador* (<https://bioweb.bio/faunaweb/reptiliaweb>) should be checked in perpetuity for updates.

Taxon	Authorship	Biogeographic Region											EN	CS ¹	CS ²		
		1	2	3	4	5	6	7	8	9	10	11					
<i>Micrurus surinamensis</i>	Cuvier 1817												x			LC	NE
<i>Micrurus tschudii</i>	Jan 1858		x					x								EN	NE
Leptotyphlopidae (6)																	
<i>Epictia signata</i>	Jan 1861												x			NE	NE
<i>Epictia subcrotilla</i>	Klauber 1939	x	x	x												DD	LC
<i>Trilepida anthracina</i>	Bailey 1946				x					x	x				x	VU	NE
<i>Trilepida guayaquilensis</i>	Orejas-Miranda and Peters 1970		x												x	DD	DD
<i>Trilepida macrolepis</i>	Peters 1857			x	x											NE	NE
<i>Trilepida pastusa</i>	Salazar-Valenzuela et al. 2015					x									x	NE	NE
Tropidophiidae (4)																	
<i>Trachyboa boulengeri</i>	Peracca 1910		x	x	x											VU	NE
<i>Trachyboa gularis</i>	Peters 1860		x												x	LC	NE
<i>Tropidophis battersbyi</i>	Laurent 1949														x	DD	NE
<i>Tropidophis taczanowskyi</i>	Steindachner 1880					x	x			x						EN	NE
Typhlopidae (1)																	
<i>Amerotyphlops reticulatus</i>	Linnaeus 1758												x			LC	LC
Viperidae (17)																	
<i>Bothriechis schlegelii</i>	Berthold 1846	x	x	x	x	x										NT	NE
<i>Bothrocophias campbelli</i>	Freire-Lascano 1991				x	x										EN	NE
<i>Bothrocophias hyoprora</i>	Amaral 1935										x	x				LC	NE
<i>Bothrocophias microphthalmus</i>	Cope 1875									x	x					VU	NE
<i>Bothrops asper</i>	Garman 1884	x	x	x	x	x										LC	NE
<i>Bothrops atrox</i>	Linnaeus 1758										x	x				LC	NE
<i>Bothrops bilineatus</i>	Wied-Neuwied 1821										x	x				LC	NE
<i>Bothrops brazili</i>	Hoge 1954										x	x				LC	NE
<i>Bothrops lojanus</i>	Parker 1930							x		x						EN	EN
<i>Bothrops osbornei</i>	Freire-Lascano 1991				x	x										DD	NE
<i>Bothrops pulcher</i>	Peters 1862									x	x					NT	NE
<i>Bothrops punctatus</i>	García 1896			x	x											NT	NE
<i>Bothrops taeniatus</i>	Wagler 1824									x	x	x				LC	NE
<i>Lachesis acrochorda</i>	García 1896			x	x											VU	NE
<i>Lachesis muta</i>	Linnaeus 1766										x	x				VU	NE
<i>Porthidium arcosae</i>	Schätti and Kramer 1993	x													x	EN	NE
<i>Porthidium nasutum</i>	Bocourt 1868		x	x	x	x										NT	LC
TESTUDINES (35)																	
Chelidae (6)																	
<i>Chelus fimbriatus</i>	Schneider 1783												x			NT	NE
<i>Mesoclemmys gibba</i>	Schweigger 1812												x			NT	NE
<i>Mesoclemmys heliostemma</i>	McCord et al. 2001												x			DD	NE
<i>Mesoclemmys raniceps</i>	Gray 1855												x			NT	NE

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Taxon	Authorship	Biogeographic Region											EN	CS ¹	CS ²	
		1	2	3	4	5	6	7	8	9	10	11				
<i>Phrynops geoffroanus</i>	Schweigger 1812								x	x	x				NT	NE
<i>Platemys platycephala</i>	Schneider 1792									x	x				NT	NE
Cheloniidae (4)																
<i>Caretta caretta</i>													x		NE	VU
<i>Chelonia mydas</i>	Linnaeus 1758	x		x									x		NT	EN
<i>Eretmochelys imbricata</i>	Linnaeus 1766	x	x										x		DD	CR
<i>Lepidochelys olivacea</i>	Eschscholtz 1829		x										x		DD	VU
Chelydridae (1)																
<i>Chelydra acutirostris</i>	Peters 1862			x	x										VU	NE
Dermochelyidae (1)																
<i>Dermochelys coriacea</i>	Vandelli 1761	x											x		DD	VU
Geoemydidae (3)																
<i>Rhinoclemmys annulata</i>	Gray 1860			x	x										EN	NT
<i>Rhinoclemmys melanosterna</i>	Gray 1861			x											EN	NE
<i>Rhinoclemmys nasuta</i>	Boulenger 1902			x	x										EN	NT
Kinosternidae (2)																
<i>Kinosternon leucostomum</i>	Duméril and Duméril 1851		x	x	x										EN	NE
<i>Kinosternon scorpioides</i>	Linnaeus 1766												x		NT	NE
Podocnemididae (3)																
<i>Peltocephalus dumerilianus</i>	Schweigger 1812												x		DD	VU
<i>Podocnemis expansa</i>	Schweigger 1812												x		CR	LC
<i>Podocnemis unifilis</i>	Troschel 1848												x		VU	VU
Testudinidae (15)																
<i>Chelonoidis abingdonii</i>	Günther 1877												x	x	EX	EX
<i>Chelonoidis becki</i>	Rothschild 1901												x	x	VU	VU
<i>Chelonoidis chathamensis</i>	Van Denburgh 1907												x	x	VU	EN
<i>Chelonoidis darwini</i>	Van Denburgh 1907												x	x	EN	CR
<i>Chelonoidis denticulatus</i>	Linnaeus 1766												x		VU	VU
<i>Chelonoidis donfaustoi</i>	Poulakakis et al. 2015												x	x	NE	CR
<i>Chelonoidis duncanensis</i>	Pritchard 1996												x	x	CR	VU
<i>Chelonoidis guntheri</i>	Baur 1889												x	x	CR	CR
<i>Chelonoidis hoodensis</i>	Van Denburgh 1907												x	x	EN	CR
<i>Chelonoidis microphyes</i>	Günther 1874												x	x	EN	EN
<i>Chelonoidis niger</i>	Quoy and Gaimard 1824												x	x	EX	EX
<i>Chelonoidis phantasticus</i>	Van Denburgh 1907												x	x	NE	CR
<i>Chelonoidis porteri</i>	Rotschild 1903												x	x	VU	CR
<i>Chelonoidis vandenburghi</i>	De Sola 1930												x	x	VU	VU
<i>Chelonoidis vicina</i>	Günther 1875												x	x	EN	EN

¹The distribution of *Ptychoglossus bilineatus* is uncertain because the only known specimen is the holotype, which lacks locality data other than simply “Ecuador.”

Table 2. Degree of endemism of the Ecuadorian reptile fauna at the species level, arranged by clades traditionally recognized as families.

Clade “Family”	Total Number of Species	Number of Endemic Species	Percentage of Endemism
CROCODYLIA			
Alligatoridae	4	0	0
Crocodylidae	1	0	0
Subtotals	5	0	0
SQUAMATA			
Amphisbaenidae	3	0	0
Alopoglossidae	9	2	22.2
Anguidae	1	0	0
Gekkonidae	3	0	0
Gymnophthalmidae	49	28	57.1
Iguanidae	97	40	41.2
Phyllodactylidae	14	10	71.4
Scincidae	2	0	0
Sphaerodactylidae	11	3	27.2
Teiidae	11	1	9.1
Aniliidae	1	0	0
Anomalepididae	2	1	50
Boidae	7	0	0
Colubridae	180	50	27.7
Elapidae	19	1	5.2
Leptotyphlopidae	6	3	50
Tropidophiidae	4	2	50
Typhlopidae	1	0	0
Viperidae	17	1	5.9
Subtotals	437	142	32
TESTUDINES			
Chelidae	6	0	0
Cheloniidae	4	0	0
Chelydridae	1	0	0
Dermochelyidae	1	0	0
Geoemydidae	3	0	0
Kinosternidae	2	0	0
Podocnemidae	3	0	0
Testudinidae	15	14	93.3
Subtotals	35	14	40
Totals	477	156	—

cally runs habitat suitability models (HSMs) for each species with more than four locality records (Austin 2002). These models are constructed under two approaches, BIOCLIM (Busby 1991) and MAXENT (Phillips et al. 2006), depending on the number of localities, 5–9 and >10, respectively. Additionally, projections on future WorldClim climatic layers (2030, 2050, and 2070) are periodically calculated under four carbon dioxide emission scenarios (RCP 2.6, RCP 4.5, RCP 6.0, and RCP 8.5) using the Hadley Centre Global Environment Model version 2 Earth

System (Collins et al. 2011; Martin et al. 2011). More details on these analyses are available at the website.

Dynamic species guides in PDF format

Species guides are available in two formats. One is a full PDF guide with maps, photographs, and the species account information described above. The other format is a photographic guide, with two photographs per species, if available. A sample of the photographic guide is included

Table 3. IUCN Red List categories for reptiles from Ecuador. CA (grey columns): 2005 Red List by Carrillo et al.; IU (white columns): 2018 IUCN Red List.

Taxon	n	NE		DD		LC		NT		VU		EN		CR		EX	
		CA	IU	CA	IU	CA	IU	CA	IU	CA	IU	CA	IU	CA	IU	CA	IU
CROCODYLIA																	
Alligatoridae	4	0	0	1	0	2	4	0	0	1	0	0	0	0	0	0	0
Crocodylidae	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
SQUAMATA: AMPHISBAENIA																	
Amphisbaenidae	3	0	2	0	0	2	1	1	0	0	0	0	0	0	0	0	0
SQUAMATA: SAURIA																	
Alopoglossidae	9	1	4	4	1	2	4	1	0	1	0	0	0	0	0	0	0
Anguidae	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Gekkonidae	3	3	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Gymnophthalmidae	49	9	17	8	5	6	11	8	4	9	4	9	8	0	0	0	0
Iguanidae: Corytophaninae	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Iguanidae: Dactyloinae	43	14	34	5	1	15	6	6	1	0	0	2	1	1	0	0	0
Iguanidae: Hoplocercinae	11	4	5	1	0	2	4	1	0	3	2	0	0	0	0	0	0
Iguanidae: Iguaninae	5	1	0	0	0	1	1	0	0	3	3	0	0	0	1	0	0
Iguanidae: Polychrotinae	5	1	2	0	0	2	2	1	0	1	1	0	0	0	0	0	0
Iguanidae: Tropidurinae	32	8	10	2	0	7	15	6	4	8	1	1	1	0	1	0	0
Phyllodactylidae	14	5	4	1	3	2	3	6	3	0	1	0	0	0	0	0	0
Scincidae	2	1	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Sphaerodactylidae	11	0	3	1	0	4	5	2	0	0	1	4	2	0	0	0	0
Teiidae	11	1	6	0	0	8	4	0	0	0	0	2	0	0	1	0	0
SQUAMATA: SERPENTES																	
Aniliidae	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Anomalepididae	2	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0
Boidae	7	0	4	0	0	2	2	1	0	2	0	2	1	0	0	0	0
Colubridae: Colubrinae	44	4	17	9	3	14	22	10	0	3	0	2	0	2	2	0	0
Colubridae: Dipsadinae	136	40	60	36	12	27	43	18	11	8	6	6	3	1	1	0	0
Elapidae	19	2	10	3	1	8	7	2	1	3	0	2	0	0	0	0	0
Leptotyphlopidae	6	3	4	2	1	0	1	0	0	1	0	0	0	0	0	0	0
Tropidophiidae	4	0	4	1	0	1	0	0	0	1	0	1	0	0	0	0	0
Typhlopidae	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Viperidae	17	0	15	1	0	6	1	4	0	3	0	3	1	0	0	0	0
TESTUDINES																	
Chelidae	6	0	6	1	0	0	0	5	0	0	0	0	0	0	0	0	0
Cheloniidae	4	1	1	2	0	0	0	1	0	1	2	0	1	0	1	0	0
Chelydridae	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Dermochelyidae	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
Geoemydidae	3	0	1	0	0	0	0	0	2	0	0	3	0	0	0	0	0
Kinosternidae	2	0	2	0	0	0	0	1	0	0	0	1	0	0	0	0	0
Podocnemididae	3	0	0	1	0	0	1	0	0	1	2	0	0	1	0	0	0
Testudinidae	15	3	2	0	0	0	0	0	0	5	4	4	2	2	5	1	2
TOTALS	477	102	219	81	28	114	142	76	26	55	29	42	20	8	12	1*	2

**Chelonoidis abingdonii* was listed by Carrillo et al. (2005) as extinct in the wild (EW) because the last known individual of this species, Lonesome George, was still alive. Lonesome George died in 2012.

with this article (Supplementary file 1). Although several guides are available as downloadable PDF files (e.g., by protected area or biogeographic region), users are allowed to generate their own guides by searching the database for specific criteria, which include taxonomy, biogeographic region, protected area, elevation, province, and conservation status. In addition, checklists can be generated by selecting any location on a map and defining a search area, the output is a list of species of reptiles occurring within the defined area. These dynamic checklists can be downloaded freely as either full or photographic PDF guides.

Results and Discussion

Reptiles del Ecuador is currently available in Spanish at <https://bioweb.bio/faunaweb/reptiliaweb>, and it documents the uniquely rich reptile fauna of Ecuador. Among countries with the highest richness of reptiles, Ecuador has one of the largest number-of-species/area ratios in the world (8.4 species/5,000 km²). To date, 477 species of reptiles—35 turtles, five crocodylians, and 437 squamates (three amphisbaenians, 197 lizards, and 237 snakes)—are known to occur in Ecuador (Table 1). Of these, two species of Galapagos giant tortoises are extinct due to overhunting; *Chelonoidis niger* disappeared in the mid-1850s (Broom 1929), whereas *C. abingdonii* went extinct with the death of Lonesome George in 2012. Among mainland species (430), over one-fourth (111) are endemic to Ecuador, whereas all terrestrial species in the Galapagos are endemic to the archipelago, except for the introduced geckos *Gonatodes caudiscutatus*, *Phyllodactylus reissii*, *Hemidactylus frenatus*, and *Lepidodactylus lugubris* (Torres-Carvajal and Tapia 2011). Mostly due to Galapagos endemics, Testudinidae and Phyllodactylidae are the clades with by far the highest percentages of endemism (93.3% and 71.4%, respectively), followed by the lizard clade Gymnophthalmidae, in which 57.1% of the species are Andean endemics (Table 2).

In agreement with a recent study on diversity and conservation of Ecuadorian reptiles (Reyes-Puig et al. 2017), the richest biogeographic areas (Fig. 2) are the Amazonian Tropical Rainforest (154 species, ~36% of mainland species), Western Foothill Forest (139, ~32%), and Western Montane Forest (131, ~30%). Other areas with over a hundred species are the Eastern Montane Forest (127, ~29%), Eastern Foothill Forest (126, ~29%), Chocoran Tropical Rainforest (121, ~28%), and Deciduous Coastal Forest (119, ~27%). With only 15 species (~3.5%), the Paramo is the poorest area for reptiles. Overall, the reptilian fauna of Ecuador is remarkably dominated by dipsadine snakes (136 species), followed by iguanid lizards (97), gymnophthalmid lizards (49), and colubrine snakes (44). The most speciose genus is *Anolis*, with 43 species, followed by *Atractus* (29 species).

Carrillo et al. (2005) published the first red list of the reptiles from Ecuador based on IUCN criteria. Of the 377 evaluated species, ~30% (114) were categorized as Least

Concern, and ~28% (105) as Threatened with Extinction. Over a decade later, only 54% (259) of the species of reptiles from Ecuador have been evaluated by the IUCN (2018). Of these, ~55% (142) are categorized as Least Concern, and ~24% (61) as threatened with extinction (Table 3).

Given the uniquely rich diversity and conservation status of reptiles in Ecuador, *Reptiles del Ecuador* is an important and evolving resource, which can serve as a model for the development of similar resources dedicated to the herpetofauna of other countries.

Acknowledgements.—*Reptiles del Ecuador* (formerly called *ReptiliaWebEcuador* from 2010–2017) is part of Bioweb (<http://bioweb.bio>), a portal to the biodiversity of Ecuador. For coordinating Bioweb, we thank its general manager, Santiago R. Ron. For developing Bioweb, we thank lead programmers Jorge Orozco and David Zúñiga. For helping to compile information on Ecuadorian reptiles from the literature or providing relevant information, we thank María Belén Andrango, Vanessa Aguirre, Fernando Ayala, Andrés Calero, Amaranta Carvajal-Campos, Denisse Galarza, Estefany Guerra, Andrés Mármol, Diego Ortiz, Andrea Rodríguez, Cecilia Tobar, and Jorge Valencia. Most photographs were taken and edited by Museo de Zoología QCAZ staff, while others were generously donated by many photographers, who are acknowledged in the website's gallery. Special thanks to Andrés Merino-Viteri for programming the HSMs, and to Belén Baus, Sebastian Dávalos, Melissa Rodríguez, Pilar Rodríguez, Diego Paucar, and Carlos Zambrano for help with georeferencing. This manuscript was greatly improved thanks to critical reviews by Larry D. Wilson and Santiago Ron. Bioweb was funded by Secretaría de Educación Superior, Ciencia, Tecnología e Innovación del Ecuador (SENESCYT), JRS Biodiversity Foundation, and Pontificia Universidad Católica del Ecuador.

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